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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,701	07/03/2003	Ronald G. Hart	6270/110	6836
46260	7590	08/01/2005	EXAMINER	
BRINKS HOFER GILSON & LIONE/PML PO BOX 10395 CHICAGO, IL 60610			WACHSMAN, HAL D	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,701

Applicant(s)

HART, RONALD G.

Examiner

Hal D. Wachsman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The substitute specification filed 6-7-05 is improper under 37 C.F.R. 1.125(b) because the specification amendments to paragraphs 0058 and 00132 made in the Preliminary Amendment filed 2-18-04 and the specification amendment to the title on the first page of the specification in the Preliminary Amendment filed 2-11-05 were not incorporated into the substitute specification. In addition, the substitute specification should *exclude* the claims. Appropriate correction is required.
2. Claims 53 and 61 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claim 53, line 2, cites "said digital sample" however the antecedent basis is "at least one digital sample". Claim 61, line 2, cites "said time synchronization signal" however the antecedent basis is "at least one time synchronization signal". The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 43-53 and 60-64 are rejected under 35 U.S.C. 102(b) as being anticipated by "Global Positioning System applications at the Bonneville Power Administration" (Street et al.).

As per claim 43, Street et al. (page 244, section 1. Introduction) disclose "at least one sensor coupled with said electric circuit....and generate at least one analog signal indicative thereof". Street et al. (page 247, section 5.1 BPA's experience to date) disclose "at least one analog to digital converter...to convert said at least one analog signal to at least one digital sample". Street et al. (page 244, section 1. Introduction, pages 244-245, section 3. GPS SYSTEM OVERVIEW, page 247, figure 4) disclose "at least one time synchronization receiver...to generate at least one time synchronization signal". Street et al. (page 244, section 1. Introduction, page 245 section 3, last paragraph, page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 247, section 5. Phasor Measurement Development, section 5.1 BPA's experience to date, figure 4) disclose "a local synchronization circuit coupled with said at least one time synchronization receiver and operative to receive at least one timing clock signal...by altering said at least one timing clock signal based on at least one of said at least one time synchronization signal". Street et al. (page 247, section 5.1 BPA's experience to date, figure 4) disclose "a processor coupled with said at least one analog to digital converter and said local synchronization circuit and operative to receive said synchronization timing clock signal".

As per claim 44, Street et al. (page 247, section 5.1 BPA's experience to date, figure 4) disclose the feature of this claim.

As per claim 45, Street et al. (pages 244-245, section 3. GPS System Overview, page 247, section 5.1 BPA's experience to date, figure 4) disclose the feature of this claim.

As per claim 46, Street et al. (pages 244-245, section 3. GPS System Overview, figure 2, page 246, section 4.2 BPA Fault Locator Operation using GPS Timing) disclose the feature of this claim.

As per claim 47, Street et al. (pages 244-245, section 3. GPS System Overview, figure 2, page 246, section 4.2 BPA Fault Locator Operation using GPS Timing) disclose the feature of this claim.

As per claim 48, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

As per claim 49, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

As per claim 50, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

As per claim 51, Street et al. (page 244, section 1, Introduction) disclose the feature of this claim.

As per claim 52, Street et al. (page 244, section 1, Introduction) disclose the feature of this claim.

As per claim 53, Street et al. (page 245, section 4.1 – right column, page 246, section 4.2 BPA Fault Locator Operation using GPS Timing, page 250, section 7, Conclusion) disclose the feature of this claim.

As per claim 60, Street et al. (page 244, section 1. Introduction) disclose "sensing at least one electrical parameter...generating at least one analog signal indicative thereof". Street et al. (page 247, section 5.1 BPA's experience to date) disclose "converting said at least one analog signal to at least one digital sample". Street et al. (page 244, section 1. Introduction, pages 244-245, section 3. GPS SYSTEM OVERVIEW, page 247, figure 4) disclose "generating at least one time synchronization signal from at least one time synchronization receiver". Street et al. (page 244, section 1. Introduction, page 245 section 3, last paragraph, page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 247, section 5. Phasor Measurement Development, section 5.1 BPA's experience to date, figure 4) disclose "generating a synchronized timing clock signal by altering a timing clock signal...based on at least one of said at least one time synchronization signal".

As per claim 61, Street et al. (page 246, section 4.2 BPA Fault Locator Operation using GPS Timing, page 250, section 7, Conclusion) disclose the feature of this claim.

As per claim 62, Street et al. (pages 244-245, section 3. GPS System Overview, figure 2, page 246, section 4.2 BPA Fault Locator Operation using GPS Timing) disclose the feature of this claim.

As per claim 63, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

As per claim 64, Street et al. (page 244, section 1. Introduction) disclose the sensing means as described in lines 3-4 of the claim. Street et al. (page 247,

section 5.1 BPA's experience to date) disclose the converting means as described in lines 5-6 of the claim. Street et al. (page 244, section 1. Introduction, pages 244-245, section 3. GPS SYSTEM OVERVIEW, page 247, figure 4) disclose the generating means as described in lines 7-8 of the claim. Street et al. (page 244, section 1.

Introduction, page 245 section 3, last paragraph, page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 247, section 5. Phasor Measurement Development, section 5.1 BPA's experience to date, figure 4)

disclose the synchronization means as described in lines 9-10 of the claim. Street et al. (page 245, section 4.1 Traveling Wave Fault Locator Principles – right column page 247, section 5.1 BPA's experience to date, figure 4) disclose the processing means as described in the last 2 lines of the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Global Positioning System applications at the Bonneville Power Administration" (Street et al.) in view of "Multichannel Continuous Harmonic Analysis in Real-Time" (Miller et al.).

As per claim 54, Street et al. (page 244, section 1. Introduction) disclose "at least one sensor coupled with said electric circuit....and generate at least one analog signal indicative thereof". Street et al. (page 247, section 5.1 BPA's experience to date) disclose "at least one analog to digital converter...to convert said at least one analog signal to at least one digital sample". Street et al. (page 244, section 1. Introduction, pages 244-245, section 3. GPS SYSTEM OVERVIEW, page 247, figure 4) disclose "at least one time synchronization receiver...to generate at least one time synchronization signal". Street et al. (page 244, section 1. Introduction, page 245 section 3, last paragraph, page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 247, section 5. Phasor Measurement Development, section 5.1 BPA's experience to date, figure 4) disclose "a local synchronization circuit coupled with said at least one time synchronization receiver and operative to receive at least one timing clock signal...by altering said at least one timing clock signal based on at least one of said at least one time synchronization signal". Street et al. (page 247, section 5.1 BPA's experience to date, figure 4) disclose "a processor coupled with said at least one analog to digital converter and said local synchronization circuit and operative to receive said synchronization timing clock signal". It appears though that Street et al. does not explicitly disclose a digital network with at least one device coupled with that digital network. However, Miller et al. (page 1815, figure 3, page 1817, CHART Control and Display Workstations) teach this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Miller et al. to the invention of Street et al. as specified above because as

taught by Miller et al. (page 1818, Conclusion) the Ethernet network facility enables the system to be readily integrated into existing SCADA system controllers and to be accessed by any number of workstations.

As per claim 55, Street et al. (page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 246, section 4.2 BPA Fault Locator Operation using GPS Timing, page 250, section 7, Conclusion) teach the feature of this claim.

As per claim 56, Street et al. (page 245, section 4.1 Traveling Wave Fault Locator Principles – right column, page 247, section 5.1 BPA's experience to date, figure 4) disclose the feature of this claim with the exception of explicitly disclosing that the transmission is occurring onto a digital network. However, Miller et al. (page 1815, figure 3, page 1817, CHART Control and Display Workstations) teach this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Miller et al. to the invention of Street et al. as specified above because as taught by Miller et al. (page 1818, Conclusion) the Ethernet network facility enables the system to be readily integrated into existing SCADA system controllers and to be accessed by any number of workstations.

As per claim 57, Street et al. (page 246, section 4.2 BPA Fault Locator Operation using GPS Timing, page 250, section 7, Conclusion) disclose the feature of this claim.

As per claim 58, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

As per claim 59, Street et al. (pages 244-245, section 3, GPS System Overview) disclose the feature of this claim.

7. The following reference is cited as being art of additional general interest: "The use of GPS for precise time tagging of power system disturbances and in overhead line fault location" (Gale) which disclose a GPS receiver that produces an accurate time signal for synchronizing real time clocks within the unit.

8. Applicant's arguments filed 6-7-05 have been fully considered but they are not persuasive. With respect to the arguments concerning the Street et al. reference on page 12 of the reply, the Examiner respectfully notes the following from page 245, right column of the reference:

"...A Fault Locator remote is actually a fancy **electronic stopwatch synchronized to the common timing standard of UTC from GPS**, either directly or via a wideband microwave channel from the BPA Dittmer Control Center. The method **employing distributed clocks synchronized to a common time reference has existed for many years...**".

Thus from the above, it can be seen that local synchronization is occurring and that it is the distributed clocks that are being synchronized and in so doing altering the timing clock signal. Also, section 5.1, left column on page 247, clearly states:

"...A **GPS receiver** at each substation *provides a 1 Pulse Per Second (1PPS) synchronizing signal...*".

Thus, from the above, it can readily be seen that as a synchronizing signal is being provided at the receiver there is indeed then synchronization circuitry for accomplishing this locally.

On page 12 of the reply, the Applicant also argues that "Street fails to disclose time synchronization signals from multiple time synchronization receivers". However, the claim language indicates "**at least one** time synchronization receiver" and "**at least one** time synchronization signal". "At least one" indicates *one or more* of the time synchronization receivers and one or more of the time synchronization signals. Consequently, even if Street et al. is viewed by the Applicant as disclosing only one of each of these items, the reference still meets the Applicant's claim limitations here because the claim language indicates "at least one" and the showing of one of each of these items satisfies the "at least one" limitation here. The above also applies to the Applicant's arguments on page 13 with respect to the multiple time synchronization receivers of claims 60 and 64. With respect to the arguments concerning the Miller et al. reference, the Miller et al. reference was not used to disclose or teach the features being argued here, but rather was only used to teach the digital network with at least one device coupled with that digital network.

9. No claims are allowed.

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D. Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hal D Wachsman
Primary Examiner
Art Unit 2857

HW
July 28, 2005